

## **A Randomized Clinical Trial Study: Anti-Oxidant, Anti-hyperglycemic and Anti-Hyperlipidemic Effects of Olibanum Gum in Type 2 Diabetic Patients.**

[Azadmehr A<sup>1</sup>](#), [Ziaee A<sup>2</sup>](#), [Ghanei L<sup>2</sup>](#), [Fallah Huseini H<sup>3</sup>](#), [Hajiaghvae R<sup>4</sup>](#), [Tavakoli-Far B<sup>5</sup>](#), [Kordafshari G<sup>6</sup>](#).

### **Abstract**

Diabetes is a common metabolic disease in the world that has many adverse effects. Olibanum gum resin (from trees of the genus *Boswellia*) has traditionally been used in the treatment of various diseases such as diabetes. The aim of this study was the comparison of Olibanum gum resin effect with placebo on the treatment of type 2 diabetes. Inclusion criteria was diabetic patients with fasting blood sugar (FBS) =140-200 mg/dL. This study has been designed as double-blinded clinical trial on 71 patients with type 2 diabetes and the patients randomly were divided to interventional and placebo groups. The patients on standard anti-diabetic therapy (metformin) treated with Olibanum gum resin (400 mg caps) and placebo two times per day for 12 weeks, respectively. At the end of the twelfth week, the FBS, HbA1c, Insulin, total Cholesterol (Chol), LDL, Triglyceride (TG), HDL and other parameters were measured. The Olibanum gum resin lowered the FBS, HbA1c, Insulin, Chol, LDL and TG levels significantly ( $p < 0.001$ ,  $p < 0.001$ ,  $p < 0.001$ ,  $p = 0.003$ ,  $p < 0.001$  and  $p < 0.001$ , respectively) without any significant effects on the other blood lipid levels and liver/kidney function tests ( $p > 0.05$ ) compared with the placebo at the endpoint. Moreover, this plant showed anti-oxidant effect and also no adverse effects were reported. The results suggest that Olibanum gum resin could be used as a safe anti-oxidant, anti-hyperglycemic and anti-hyperlipidemic agent for type 2 diabetic patients.

### **KEYWORDS:**

Diabetes; Hyperglycemia; Hyperlipidemia; Olibanum gum resin; Patients